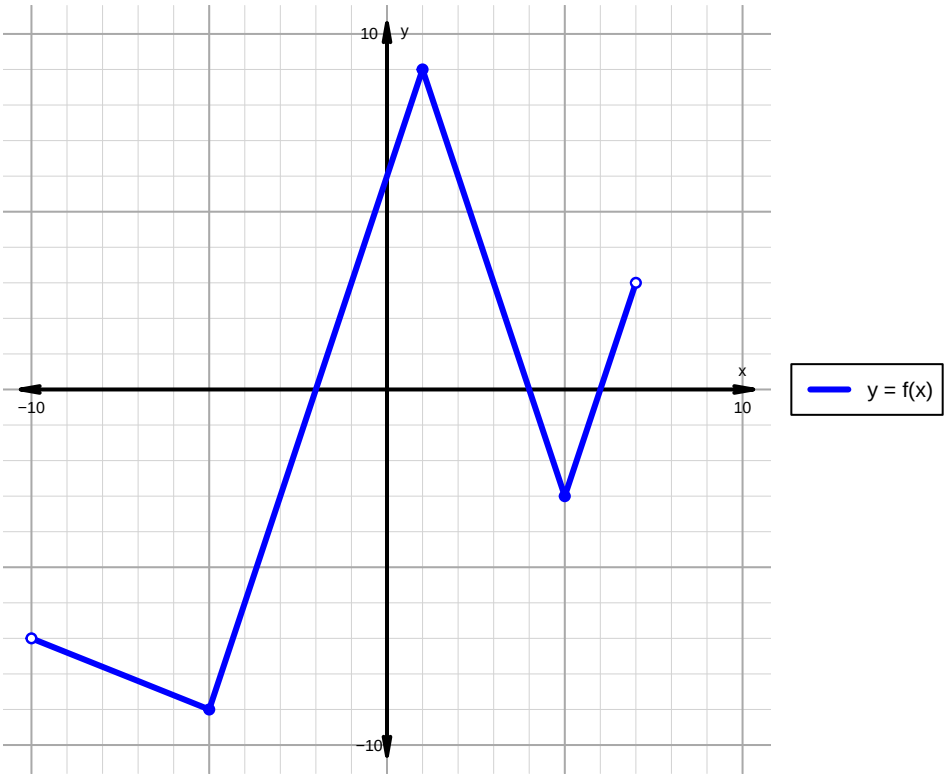
Name: Date:

Intervals, Transformations, and Slope Solution (version 162)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-2, 4) \cup (6, 7)$
Negative	$(-10, -2) \cup (4, 6)$
Increasing	$(-5, 1) \cup (5, 7)$
Decreasing	$(-10, -5) \cup (1, 5)$
Domain	$(-10, 7)$
Range	$(-9, 9)$

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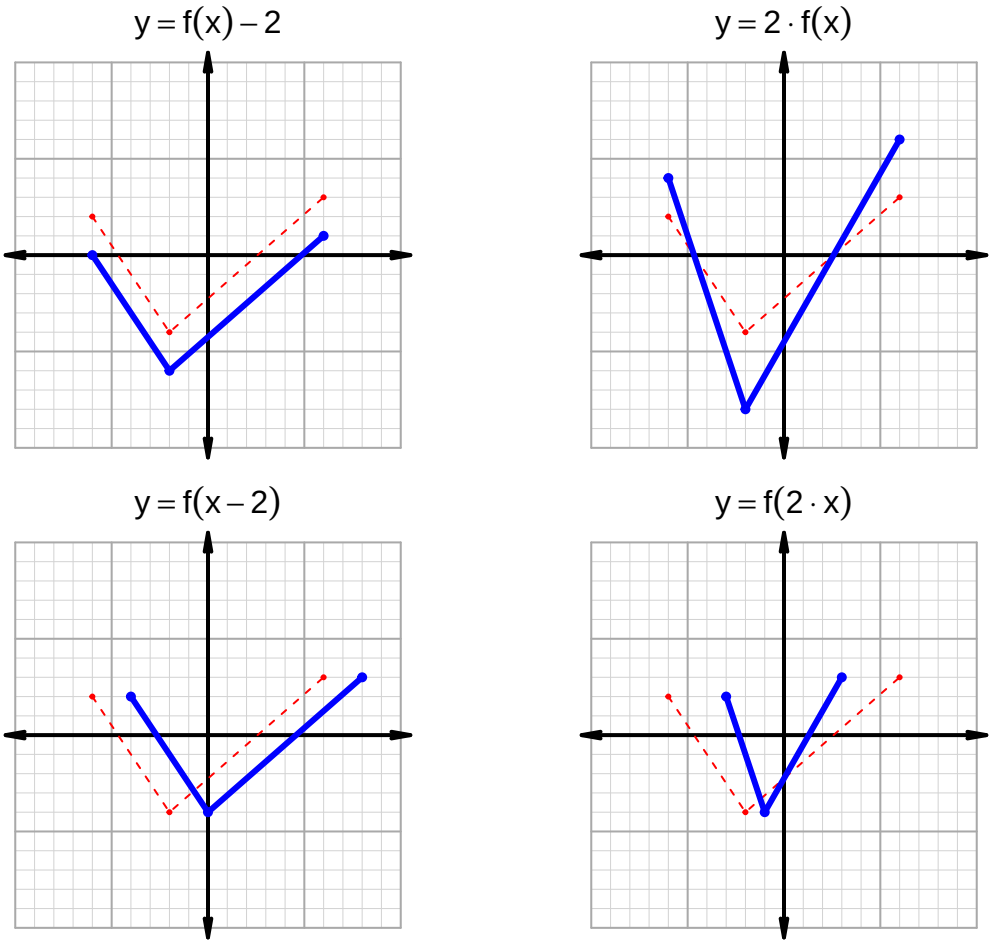
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 21$ and $x_2 = 35$. Express your answer as a reduced fraction.

x	$g(x)$
21	33
27	21
33	35
35	27

$\frac{g(35)-g(21)}{35-21} = \frac{27-33}{35-21} = \frac{-6}{14}$

The greatest common factor of -6 and 14 is 2. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-3}{7}$$